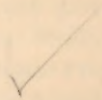


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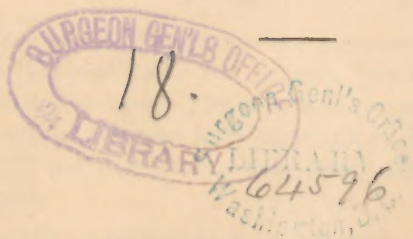
# PHOSPHORUS:

ITS CLAIMS AS A THERAPEUTIC AGENT,

—BY—



WM. MASON TURNER, B. Ph: M.D.



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# PHOSPHORUS:

## Its Claims as a Therapeutic Agent.

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THE object of this paper is to call the attention of the Medical Profession to a remedy, which, from various causes, has been compelled to play a subordinate part in the physician's great armamentarium of the *Materia Medica*. Thus far it has been shunned and neglected to a greater extent than should have been the case—because of its repulsive qualities and the absence of some eligible preparation of the drug.

I refer to Phosphorus.

PHOSPHORUS, a non-metallic element, was discovered in 1669 by Brandt, a Hamburg chemist, who obtained it from urine. The process remained a secret for some time. Brandt, however, imparted it to Kraft, a Saxon chemist, but it was not made known generally till 1737.

Down to 1774 Phosphorus was prepared exclusively from urine, but in that year, Gahn and Scheele, Swedish chemists, ascertained its presence in bone. The process of extracting it was subsequently improved by Bertrand le Pelletier and by Fourcroy, and is now the chief, if not only source from which this important element is obtained.

The idea of using it as a medicine was suggested by this source. As early as 1721 Kunkel, a Saxon chemist, published an account of its effects when administered internally. He spoke so highly of its medical properties that others were induced to investigate, and from 1731 to 1820, every few years, a new book or treatise would appear recording its wonderful curative powers.



Notwithstanding the favorable testimony which all writers bore as to its therapeutic powers, the internal use of Phosphorus was somewhat limited. The difficulties attendant on its pharmaceutical preparation were the chief obstacle. The advantages derived from it, however, were undeniable, and though it sometimes proved dangerous, its medicinal properties were by far too valuable to allow of its exclusion from the *Materia Medica*.

No other consideration but the existence of a danger attending its use and its disgusting properties as hitherto administered, could account for the failure of Phosphorus to establish itself in universal favor as a remedy. It is this element of danger, as Christison testifies in his work on poisons, which has stood in the way of its general employment even to within a year or two.

I claim for Phosphorus, duly administered and properly exhibited—and for this purpose I advocate its employment in its elementary form in an absolute state of subdivision, and in thoroughly protected *pill* shape,—more specific powers in certain and constantly recurring maladies than opium, quinine, calomel or cod-liver oil can claim. From personal experience, and from the experience of others, I would state that, whereas we can readily find substitutes for the remedies above in almost any case in which they may be demanded, yet, in no one instance, can we supplement Phosphorus where *it* is indicated. For example, lactucarium, chloral, bromide of potassium, and other remedies, may take the place of opium preparations; various barks and peppers, salts, etc., can be used where quinine is needed, and their effect may be as potent. The resin of podophyllin is in many instances substituted for calomel. But in cases where Phosphorus is demanded, where, in the extended range of *Materia Medica*, can we look for a remedy which will substitute that potent agent.

As Phosphorus enters largely into the composition of the human structure, especially of the nervous system with its great centers, it has long been thought that in cases of wear-and-tear of body and brain, Phosphorus could be wisely administered to repair waste.

Certain diets containing Phosphorus have, for a long time, been popular with practitioners of comprehensive views, and in cases of *over-work*, of *mental-exhaustion*, *mania*, and *impotency* have acted wonderfully well. Professor Agassiz laid special stress on *Fish diet* where the brain had been tasked and taxed beyond its capacity. And so much talked of was this fish diet, among editors and literary

men especially, that even now we find it their habit to resort to this article of food when suffering from unusual brain work. It is only natural to credit any benefit derived, to the Phosphorus element which abounds in fish, which element goes to the repair of waste-tissue in the brain.

In this connection we would state that M. Lefort found in 100 parts of fresh fish, phosphoric acid, to wit:

Carp, (muscular flesh of back.)	-	-	-	-	0.345
Pike,       "       "       "	-	-	-	-	0.465
Ray,       "       "       "	-	-	-	-	0.514
Mackerel, "       "       "	-	-	-	-	0.533

Taking it for granted that this beneficial repairing effect *is* due to Phosphorus in the fish diet, the question naturally arises: Why cannot the exhibition of Phosphorus itself be resorted to either in lieu of the fish diet, or as a powerful adjuvant in connection with it? Such an addition would, most assuredly, hasten the cure, especially where brain-exhaustion is pronounced.

To the student of medical literature of to-day, it is interesting to look over the old crude accounts of Phosphorus as a remedial agent—especially to note the grave cautions recommended to be observed in its administration. The universal warning was—*Do not give in substance!* Of course, this means that it should only be given in a form or manner which will protect it, as an inflammable substance, when in contact with the tender coats of the stomach.\* On glancing over an old edition of the Dispensatory, dated some forty years ago, I see it stated that Phosphorus acts as a powerful general stimulant; that its action seems chiefly directed to the kidneys and genital organs, producing diuresis and excitation of the venereal appetite; that it has been “recommended,”—*proven efficacious* in dropsy, impotency, typhus fever, phthisis pulmonalis, marasmus, chlorosis, mania, etc., etc. Throughout this extended catalogue of diseases, for which the drug was so long ago recommended, we see only two, in combatting which, the writer of this paper and many others, claim Phosphorus to be pre-eminently successful and satisfactory, viz:—impotency and mania. Later authority mentions, in addition to the foregoing list of complaints for which Phosphorus is recommended, the following—and not only recommends but indorses, to wit: Typhoid Fever, Locomotor Ataxia, Amaurosis,



Facial Neuralgia, and—in cutaneous disorders—Eczema and Psoriasis. This is quite an addendum; and it is a remarkably strong proof that Phosphorus, as a curative agent, has extended its domain considerably since 1834.

There is one reason why the exhibition of Phosphorus in certain diseases has not been resorted to by physicians, especially in those particular complaints in which it has been so highly and so justly extolled as a curative agent. That reason is: FEAR of the remedy—fear of some resulting mischief following its administration. Over-caution, if we can so characterize an unnatural timidity, may have been exercised too much—often at the cost of human suffering. All of us in the profession know that hesitancy to use a potent drug—which, though potent, *is safe when rightly used*—has lost us patients. And, speaking individually and from a personal experience, I am convinced that such has been the case with some in the failure to use Phosphorus, where it has been so plainly indicated that none could fail to appreciate and take in the situation of affairs. And all this from *over-caution*, based, I doubt not, on incessant warning, laid down in the books concerning the care to be exercised in the exhibition of the drug. I do not pretend to underrate the value of these cautions from the Nestors of Medicine; far from it. They should be heeded, and no physician, save one who knows his business, should meddle with Phosphorus—or, in fact, with any drug which possesses virulent and toxocological properties. But I do inveigh against a needless timidity in the use of the remedy which, even were it pushed too far, could be rendered powerless by an emetic dose of tartarized antimony and potassa, and a drachm of magnesia suspended in half a glass of water. By the aid of the intelligent chemist and pharmacist of to-day, we are provided with preparations the most reliable, pleasant, and convenient for the patient.

The *officinal* compounds containing oxidized Phosphorus, are the phosphates of ammonia, lime and soda, the phosphate and pyrophosphate of iron and phosphoric acid—glacial and diluted. But there are many preparations in daily use which are eminently useful, though not recorded in the staid and exclusive “*officinal*” list. For instance, the many varieties of sugar-coated pills, extracts, and “*new remedies*,” without which the enlightened physician of the great progressive To-Day would feel himself despoiled of a portion of his armor and equipment of offence and defence. And so

with Phosphorus. We, of the medical profession, should indeed be thankful that in using Phosphorus we can call to our aid the latest handiwork of the diligent pharmacist.

It might be well here to glance at the several methods or forms for the administration of Phosphorus, and then pass on to notice particularly the cases in which the drug has been used with such signal success, and to urge upon the profession the claims of the remedy. The solvents of Phosphorus which have been employed are olive and almond oil, linseed oil, turpentine, cod-liver oil, Dippel's animal oil, suet, white wax, beeswax, resin, ether, chloroform, alcohol, napha, bisulphide carbon, ærated water, acetic acid and sulphur. Of these solvents some are unfit for internal use. Others, experience has shown, will not be tolerated in the repeated doses it is necessary to give, while acetic acid and sulphur are found to be entirely unfit for the purpose. It is therefore evident that the pharmaceutical preparation of Phosphorus presents great difficulties and may be summed up briefly under the following heads :

1st. The remarkable aptitude for oxidising which Phosphorus exhibits.

2d. The difficulty of dissolving it in vehicles which are at the same time comparatively inert and not intolerable to the stomach.

3d. The difficulty of sub-dividing it to the necessary degree of fineness without oxidising.

With these few remarks we will make a brief review of the preparations in use. Our attention is first directed to the formula given in the Paris Codex, an ethereal solution termed *Æther Phosphoré*.

Phosphorus, one part.

Sulphuric Ether, fifty parts.

Macerate for four or six weeks in a bottle covered with black paper (to protect it from sunlight) ; then decant into small vials similarly covered with black paper. It was then ready for use, and the dose was five to ten drops every four hours in gum arabic or viscid flax-seed water. It was used, and somewhat extensively, in epilepsy, paralysis and kindred affections.



Augustin's recipe for the solution was this:

Phosphorus, two grains.  
Oil of Peppermint, half drachm.  
Dissolve and add  
Sulphuric Ether, half fluid ounce.

Mix thoroughly. The dose of this was two or three drops every four hours, on sugar.

The chemist Hufeland had a recipe, of which the following is the formula:

Phosphorus, grs. ij.  
Ol. Terebinth, fʒiij.  
Agitate until dissolved.

This, at one time, was thought to be almost a specific in obstinate intermittents. The dose was ten to twelve drops, once or twice a day, given in a few fluid ounces of gruel.

The chief objections to the ethereal solution is the taste, which, after a few doses, becomes repugnant and in the great amount of phosphoric eructations to which it gives rise. The rapid evaporation of the ether renders the strength very unreliable.

In the oil-turpentine solution it has been discovered that a chemical change occurs, a crystalline cetaceous body is formed, which has been called Terebinthino-phosphoric acid, which is insoluble and inert. Then oil of some kind was suggested as the solvent. So M. Lescat proposed this:

Phosphorus, ʒj.  
Ol. Olivæ, fʒi.

This, on account of the after addition of a few drops of some aromatic oil, to give an extra elegance to the preparation, was called *Aromatic Phosphorus Oil*, or *Phosphoric Oil*. The dose was 25 to 30 drops in 24 hours, given in a mucilaginous drink.

The objection to this is the absorbing power of the olive oil for oxygen, the gas converting the Phosphorus into phosphoric and hypophosphorus acid. In fact nearly all cases of Phosphorus poisoning have been traced to the use of this solution, and it is no doubt due to the hypophosphorus acid; so that the use of this solvent is not to be recommended.



In a recent number of the London *Practitioner*, Dr. J. Ashburton Thompson gives in detail his experience, so laudatory, of Phosphorus as a remedy. He gave a recipe for a preparation of Phosphorus, consisting of a solution in alcohol and ess. peppermint mixed with glycerine, in which it is insoluble.

This, although the best of its kind, in common with the other preparations before mentioned so entirely objectionable, must also be discarded as it is not permanent,—and is therefore variable in strength and offensive to the taste.

The same gentleman (Mr. Thompson) gave the phosphide (the old *phosphuret*) of zinc a fair trial. This is made by bringing phosphorus vapor in contact with melted zinc in an atmosphere of dry hydrogen. But his deductions were, that the remedy thus administered, was not so speedy and satisfactory as the element.

I will remark, in passing, that Mr. Thompson in treating some bad cases of *neuralgia* found that the hypophosphite of sodium—a much vaunted remedy in that affection—was not near so efficacious as a solution of *pure Phosphorus*. I would further call attention to Mr. Thompson's experience in the treatment of neuralgia in general, by Phosphorus. His experience was quite extensive, as he, from his position as surgeon-accoucheur to the Royal Maternity Charity, had ample material, besides abundant opportunity, to test Phosphorus in this direction.

The learned gentleman refers to the *dose* of Phosphorus indicated in neuralgia. This, he remarks, is stated by the British Pharmacopœia, to range from 1-30 to 1-10 of a grain. Dr. Ainstie, it seems, met with no success, or very little; in neuralgia from either of the doses mentioned; whereas Drs. Broadbent and Radcliffe report a satisfactory success with the same doses. Dr. Adolphe Waltuch, in his "Dictionary of Materia Medica and Therapeutics," places the dose at from 1-20 to  $\frac{1}{4}$  of a grain. *These, we pause to say, seem to us as very large doses of the drug under any circumstances requiring its exhibition.* But we will follow Mr. Thompson yet further in his views.

In plain, unequivocal language he considers that Dr. Waltuch gives the proper range of the dose of Phosphorus in neuralgia. He says, substantially, that to prescribe *less* than 1-25 of a grain, *in the beginning*, is to render the therapeutic action of the drug variable

(apparently) or uncertain. He states also, that in some of his earlier cases, recovery was undoubtedly retarded by the *small dose* given, and that, latterly, he invariably *begins* by giving 1-12 of a grain every four hours, this being, he thinks, from large experience, an average dose as well as a safe and efficacious one. Nevertheless, to give a still larger margin to the safeness of the dose, he recommends to begin with 1-25 of a grain.

So far as regards administration of the drug, Mr. Thompson prefers the form of the *alcoholic solution*, though admitting that this form was rejected by the French investigator, Beaumetz.

The learned practitioner then gives two formulæ—one for the oil preparation, as used by himself and Dr. Ainstie—the other in which the *tincture* of Phosphorus is an ingredient.

Mr. Thompson highly recommends, from his experience, Phosphorus as a remedy in neuralgia and kindred affections. Besides its indication in that direction, well and widely known physicians have likewise determined that Phosphorus takes a high rank in hysterical paraplegiæ not caused by organic lesion, as well as in cases of *cerebral trouble*, in which all irritation has ceased and cicatrization has taken place. And Beaumetz (Dujardin) highly recommends it in *locomotor ataxia*.

Again, an eminent Italian physician, Dr. G. Tempini, has found Phosphorus an excellent, and almost never-failing, remedy in *brain exhaustion*. In conjunction with the drug he directs a Phosphorus *diet*, at the same time urging, as valuable stimulants, wine and coffee, with cold douches to the head. In such cases I give usually a morning diet of Scotch oat-meal gruel and cream, with or without a little sugar and nutmeg to suit taste.

That Phosphorus is a speedy and powerful *nerve tonic* there is ample testimony—Dr. Routh, of London, being especially loud in its praises; and, in addition to the administration of Phosphorus, he, along with other directions, is earnest that the patient should have a “nourishing diet, *especially of shell-fish*.”

P. M. Bradley, Esq., of Manchester, England, after fully indorsing Phosphorus in neuralgia, also gives one very marked case in which the drug proved of speedy and effectual service in *goitre*. He states that he had tried in vain the usual absorbent treatment of iodine, etc., without any material benefit; yet when he began giving

Phosphorus in doses ranging from 1-50 to 1-20 of a grain, the effect was an immediate diminution in the size of the gland.

Dr. Broadbent (Physician and Lecturer on Medicine, St. Mary's Hospital), in addition to his overwhelming evidence in behalf of Phosphorus as a remedial agent in neuralgia, also states that he has used the drug with "obvious advantage in cases of syphilitic disease of the brain, giving rise to epilepsy after a course of iodide of potassium in large doses."

Concerning the *rationale* of the action of Phosphorus, it is but frank and honest on our part to say, that as yet, with our present light before us, we cannot satisfactorily explain it. "But," using the words of an eminent authority, "probably the progress of animal chemistry will hereafter supply the missing links now wanting to connect the Phosphorus taken as medicine with the protagon of the brain, and then with the phosphates which are finally thrown off by the body." The popular idea that as Phosphorus is found in the nervous structures generally, so a beneficial result may be achieved by supplying this same element to the weakened structures will not, on a crucial test, hold good. For instance, we might with equal consistency and reason attempt to live on charcoal, because carbon is a constituent of the tissues, and from its oxidation we derive heat.

We must, however, be content to accept facts as facts; and the record in such cases has been, undeniably, that the rightful administration of Phosphorus is, beyond all cavil, productive of great results in,

*First.*—NEURALGIA.

*Second.*—LOSS OF MEMORY.

*Third.*—LOSS OF NERVE-ESSENCE.

*Fourth.*—IMPOTENCY.

*Fifth.*—PHTHISIS PULMONALIS.

*Sixth.*—PARALYSIS.

*Seventh.*—LOCOMOTOR ATAXIA.

*Eighth.*—DEPRESSION. LOW SPIRITS.

*Ninth.*—MENTAL EXHAUSTION.

In regard to the last (ninth) point, I would state that I have seen cases of brain exhaustion, which in symptoms strongly resembled incipient delirium tremens, entirely and speedily cured by the



prompt and persistent exhibition of Phosphorus. The tremor, the insomnia, the restlessness, the unnatural dread of impending evil—in fact all of the distressing symptoms marking the case so peculiarly, would disappear as if by magic as soon as the patient *felt* phosphorus-action, and this, too, after opium, potass. bromide, valerian, chloral, *et id omne genus*, had been tried.

Before proceeding to give a few cases of personal and collected experience, I would in a few words indicate the form in which I have always administered this drug, and from it derived results as speedy as they were successful.

I have invariably used it in PILL form, and I am justified in speaking from uniform satisfaction in results. And the pill or pills—for I have employed *two* kinds—which I have directed, were made by the great sugar-coating pill establishment of WM. R. WARNER & Co., of Philadelphia, my attention being accidentally drawn to the administration of Phosphorus in that shape, by a circular received from the firm.

WARNER & Co., as I see by the said circular, claim for their Phosphorus pill—taking it for granted, that for many reasons, the pilular form is desirable —“that the Phosphorus is in a perfect state of subdivision, as it is incorporated with the material while in solution, and is not extinguished by oxidation.” They further claim that this method of preparing Phosphorus has been discovered and brought to perfection by them, and is thus presented in its elementary state, free from repulsive qualities which have so long militated against the use of this potent and valuable remedy. I know nothing as regards Messrs. WARNER & Co.’s mode of preparing their pills, but I am free to say that the success with which I have met in using them, certainly bears out their assertion; and for one, I am grateful to the firm for supplying a long coveted desideratum.

The forms of pills—known in the profession as WARNER & Co.’s Phosphorus Pills—which I have used, are:

*First.* The “Pil: Phosphor. Co.,” which contains by published formula, Phos. 1-100 of a gr., Ext. Nucis Vom.  $\frac{1}{4}$  of a gr. and Phosph. 1-50 and Ext. Nucis Vom.  $\frac{1}{8}$  gr. I have given from two to four daily.

*Secondly.* Where a *ferruginous* element was likewise indicated, the “Pil: Phos., Ferri et Ext. Nucis Vom.,” this being the formula.

Phos. 1-100 of a gr., Vallet's Ferrug. Mass. gr.j, Ext. Nucis Vom. gr.  $\frac{1}{4}$ . When the tonics were not required I gave the simple pill of 1-50 or 1-00 as required.

From the above pills I have obtained, in my own experience, most satisfactory results in NEURALGIA, IMPOTENCY, in cases closely allied to ACUTE MANIA, and AMAUROSIS. I have also, to limited extent, used Phosphorus with good results in Spermatorrhœa.

As one case typifies all, I will only give one of each class as above.

#### *First.*—NEURALGIA.

Mrs. F—, Philadelphia, aged twenty-two, married, had suffered for a long time with neuralgia—Tic Doloieux. She had, in the meantime, taken iron, quinine, opium, potass. bromid., etc. I went over the same treatment, substantially, supplementing it *ad libitum*, and perhaps *ad disgustandum*! by all known topical remedies; but all to no purpose. Having seen an account of Ashburton Thompson's success in similar cases with Phosphorus, I determined to try it. It acted like a charm, and the patient was relieved. Treatment: The Pil: Phos. Co. and liberal diet. Time of treatment, three weeks. In all cases intermit the doses when digestive troubles appear and when the remedy is continued for a length of time. It should be taken immediately before eating.

#### *Second.*—IMPOTENCY.

Mr. —, of Philadelphia, aged about forty, married, gentleman of leisure, large frame; presented himself to me in an emaciated condition; face pale and haggard, pulse thready and tremulous, form bent as through with the weight of years; an anxious, yearning look in his eyes.

His history of the case was eminently unsatisfactory. I instituted, at first, vegetable tonics with ferrated bark-elixirs, potass. bromid., and tinct. musk at night (would not tolerate opium) and cold bathing, with generous diet and sweet Catawba wine. There was a slight, but not decided, improvement. Now, an important point: from the patient's general appearance and from a casual remark he let drop, that he "*didn't wish any more children*," I suspected he was guilty of conjugal onanism, of practising incomplete sexual congress. A little questioning in that direction elicited a reluctant

confession that I was right. He ended by making a "clean breast" of the matter, and appealing earnestly to me for help, saying that he was now absolutely impotent !

I clutched at the clue presented ; I saw in it a solution of all the trouble. I recommended full diet, natural coitus, or total abstinence for two months, and last, but not far from least, *Phosphorus*. This was administered in the form of Pil: Phos. Co., one three times per diem, and changed to Pil: Phos. Ferri, et Nucis Vom. (as made by WARNER & Co). The man's impotency vanished, and his venereal appetite returned to him with full vigor. He went on to a speedy and so far, permanent recovery.

*Third.*—ACUTE MANIA.

This was not *exactly* acute mania, but it were difficult to diagnose it as anything else.

Mr. S——, aged forty-five, Philadelphia, married ; formerly of a very brawny frame. I will not pause to give his condition and appearance. He did not realize the seriousness of his malady. I put him upon Phosphorus ("Pil. Phos. Co."). In six weeks he was vastly improved. Since then I have not heard from him.

I attributed this man's pitiable condition to his sudden transition from a life of daily manual toil to one of comparative affluence. This, with the fact that for sometime past, his mind had been running unremittingly in one groove, viz :—*money-making*, was too much for him.

*Fourth.*—AMAUROSIS.

Some twelve months since, Mr. B——, a plumber, aged about thirty, married, and in fine physical health, generally speaking, presented himself to me for treatment. He complained of *dimness of vision and partial loss of sight in both eyes*. He suffered to such an extent that it was with difficulty he could attend to his vocation.

The case was somewhat obscure, as the history was extremely scanty. The closest scrutiny failed to detect any trouble with the eye, and the catoptric test revealed the three images, thus establishing that there was no cataract. There was a slight, undue dilation about the pupil, and there was considerable sluggishness, in contraction, even before the most vivid light,



I was in the dark.

But, on asking him his habits, I learned, among other things, that he was a great coffee-drinker, *and that he smoked to excess.*

I made my diagnosis then. It was Amaurosis—due to paralysis of the optic nerve, and to a marked disturbance of the *thalami nervorum opticomum*.

I exhausted all known (to me) modes of treatment, and, at last, had recourse to the Pil: Phosphor. Co. The *rationale* of the exhibition of Phosphorus was this: Use the drug as a stimulant to the cerebral centers which preside over vision. I gave four pills *per diem* (a large dose), and, fearing the nux vomica, administered a drastic purge on the following morning. I continued this treatment for a few days, when I abruptly diminished the dose of the drug, reducing it to one pill before breakfast each day.

The patient recovered in a marvellously short time, and has not since complained of any trouble in that direction.

In a recent conversation with Dr. Janney, formerly of Hopewell, N. J., and now of Philadelphia, I was equally surprised and gratified to learn that he was an “enthusiast” regarding Phosphorus. He very kindly mentioned some cases of his experience with the drug, two of which I here record.

#### CASE I. NEURALGIA OF FACE.

“Mrs. M——, married, aged forty-five, of Hopewell, N. J., had been a sufferer for years. After exhausting all methods of treatment unavailingly, Dr. Janney tried Phosphorus combined with nux vomica. In *forty-eight* hours there was a marked improvement. She was discharged as cured in *six weeks*, and at the end of one year had had no return of the complaint. In connection with this case the Doctor tells a laughable complication—one by no means pleasant to the lady. She had not been pregnant since she was twenty years of age; but under the Phosphorus treatment she (at *forty-five*!) conceived, much to her disgust, and went on to full term! Did Phosphorus do this?

#### CASE II. MENTAL EXHAUSTION AND LOSS OF MEMORY.

Dr. Janney's nephew, a young man of nineteen, native of Bucks County, Penna., and a student at Swarthmore College; up to October, 1874, was very robust and healthy. Presented himself to

Dr. Janney with the following symptoms: Emaciated, terrible headache, loss of memory, languor, no appetite and low spirits.

The treatment instituted was the same as in the foregoing case. On the 15th of November, after four weeks' treatment, his mother reported him *well*—memory restored, and he once more at his studies.

The Doctor informed me that he used, in these cases, Warner & Co.'s Phosphorus Pills.

This paper is respectfully laid before the profession in the sole and sincere hope that Phosphorus, such a powerful agent in our armamentarium, may be assigned a higher and a nobler place in therapeutic art than for years it has been holding. I do not say it is a panacea, or a *sine qua non*; but I do affirm, from the teaching of the best of teachers, EXPERIENCE, that in certain affections, herein, mayhap feebly indicated, it is beyond value and without an equal.